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Title: **JP1316367A2: LIQUID CRYSTAL SUBSTANCE HAVING HETEROCYCLIC SKELETON**

Country: **JP Japan**
 Kind: **A**

Inventor: **SUZUKI GIICHI;
HAGIWARA TAKASHI;
AIHARA YOSHIHIKO;**

Assignee: **SHOWA SHELL SEKIYU KK**
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Published / Filed: **Dec. 21, 1989 / March 27, 1989**

Application Number: **JP1989000071776**

IPC Code: **C07D 239/26; C09K 19/34; G02F 1/13;**

Priority Number: **March 28, 1988 JP1988000071816**

162



Abstract:

NEW MATERIAL: A compound expressed by formula I (R1 and R2 are 1-20C alkyl; A and B are Ph, Cy, Ph-Cy or Cy-Ph or further A is Ph-Ph or Cy-Cy; Ph is formula V; Cy is formula VI; X is fluoroalkyl; Y and Z are OCO, COO, OCH2 or CH2O).

EXAMPLE: 4'-(5-Octylpyrimidinyl-2)-phenyl 4-(1-fluoromethylnonyloxy-carbonyl) benzoate.

USE: A chemically and photochemically stable liquid crystal substance, having great dielectric anisotropy, capable of providing a recognized liquid crystal phase assuming tristable state and exhibiting electroclinic effects and high-speed responsiveness with great spontaneous polarization and good orientation properties.

PREPARATION: 4-Benzyloxybenzonitrile and terephthalic acid are used as respective starting materials to provide compounds expressed by formulas II and III, which are then esterified to afford the compound expressed by formula IV in formula I.

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Family: [Show 2 known family members](#)

Forward References:

| PDF | Pat nt | Pub.Dat | Inventor | Assignee | Title |
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| | US6267910 | 2001-07-31 | Hayashi; Hitoshi | Nippon Soken, Inc. | Antiferroelectric liquid crystal composition |
| | US6239316 | 2001-05-29 | Mine; Takakiyo | Mitsubishi Gas Chemical Company Inc | Optically active secondary alcohol and process for production thereof |

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|  | US6133469 | 2000-10-17 | Mine; Takakiyo | Mitsubishi Gas Chemical Company | Anti-ferroelectric liquid c compound |
|  | US6129859 | 2000-10-10 | Hijikata; Yoshimasa | Nippon Soken, Inc. | Antiferroelectric liquid cr composition |
|  | US6103517 | 2000-08-15 | Mine; Takakiyo | Mitsubishi Gas Chemical Company | Process for the producti optically active alcohol a novel optically active alc |
|  | US6002042 | 1999-12-14 | Mine; Takakiyo | Mitsubishi Gas Chemical Company, Inc. | Liquid crystal compound |
|  | US5976409 | 1999-11-02 | Mineta; Hiroshi | Mitsubishi Gas Chemical Company, Inc. | Swallow-tail-shaped liqu crystal compound |
|  | US5972242 | 1999-10-26 | Takigawa; Kenji | Denso Corporation | Smectic liquid crystal composition and liquid c display |
|  | US5968413 | 1999-10-19 | Mine; Takakiyo | Mitsubishi Gas Chemical Company, Inc. | Anti-ferroelectric liquid c compounds |
|  | US5955001 | 1999-09-21 | Takigawa; Kenji | Nippon Soken, Inc. | Antiferroelectric liquid cr composition and liquid c indicating element |
|  | US5942646 | 1999-08-24 | Mine; Takakiyo | Mitsubishi Gas Chemical Company, Inc. | Optically active alcohol ; process for the producti thereof |
|  | US5723069 | 1998-03-03 | Mineta; Hiroshi | Mitsubishi Gas Chemical Company, Inc. | Anti-ferroelectric liquid c compound and anti-ferr liquid crystal compositio |
|  | US5716545 | 1998-02-10 | Kikuchi; Katsuhide | Nippon Soken, Inc. | Antiferroelectric liquid cr composition |
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|  | US5439612 | 1995-08-08 | Illian; Gerd | Hoechst Aktiengesellschaft | Cyclohexylphenylpyrimic process for their prepar and their use in liquid-cr mixtures |
|  | US5330678 | 1994-07-19 | Okabe; Nobuhiro | Showa Shell Sekiyu Kabushiki Kaisha | Liquid crystal compound |
|  | US5200521 | 1993-04-06 | Illian; Gerd | Hoechst Aktiengesellschaft | Cyclohexylphenylpyrimic process for their prepar and their use in liquid-cr mixtures |

Other Abstract Info: DERABS C90-040192 DERC90-040192